





SUPL. TABLE 1. Cont.

Family name	Scientific name	Vernacular name	LF	CH	Habitats	Site										
						1	2	3	4	5	6	7				
Cucurbitaceae	<i>Citrullus colocynthis</i> (L.) Schrad.	حضل	He	SA	NE,SE,WB	✓										
Cupressaceae	* <i>Cupressus sempervirens</i> L. var. <i>horizontalis</i> (Mill.) Gord.	السرو	Ph	Endemic	FT,ST,SE,NE,WB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ephedraceae	* <i>Juniperus phoenicea</i> L.	العورعار	Ph	ME	SF,LW,FT,ST,SE,NE,WB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Ephedra altissima</i> Desf. var. <i>altissima</i> Pamp.	علدا	Ph	Endemic	FT,ST,SE,WB	✓										
Ericaceae	* <i>Arbutus pavarii</i> Pamp.	شماري	Ph	Endemic	LW,FT,ST,SE,NE,WB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<i>Erica multiflora</i> L.	اريكا	Ph	ME	NE,SE,WB						✓					
Euphorbiaceae	<i>Euphorbia dendroides</i> L.	الحلبب	Ph	ME	FT,ST						✓					
	<i>Euphorbia pseudo-apirois</i> Maire & Weiller.	التاغمة	Ph	Endemic	FT,ST											
	<i>Calicotome villosa</i> (Poir.) Link. in Schrad	القندول	Ph	ME	LW,FT,ST,SE,NE,WB						✓					
	* <i>Ceratonia siliqua</i> L.	الخروب	Ph	ME	FT,ST,SE,WB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fabaceae	<i>Lotus tetragonolobus</i> L.	عرابوش	Th	ME	LW,FT,ST,SE,NE,WB											
	<i>Retama raetam</i> (Forssk.) Webb & Berthel.	الرتم	Ph	ME+IT+SA	SD,SF						✓					
	<i>Spartium junceum</i> L.	الرتم	Ph	ME	SE,NE,WB											
Fagaceae	* <i>Quercus coccifera</i> L.	البوط	Ph	ME	W,FT,ST,SE,NE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Geraniaceae	<i>Erodium keithii</i> Guitt. & L.e.	اروديوم	Th	Endemic	NE,SE,WB	✓										
Globulariaceae	<i>Globularia alypum</i> L.	الزريقة	Ch	ME + SA	FT,ST,SE,NE,WB											
Iridaceae	<i>Crocus boulosii</i> Greuter.	كروكوسس	Ge	Endemic	NE,SE,WB	✓										
	<i>Romulea cyrenaica</i> Beguinot.	روموليا	Ge	Endemic	FT,ST,SE,NE						✓					
Juncaceae	<i>Juncus acutus</i> L.	ديس	He	ME + I T	SS											✓
	<i>Ajuga iva</i> (L.) Schreb.	الشفقورة	He	ME	LW,FT,ST	✓										
	<i>Ballota andreuziana</i> Pamp.	العيللا	Ch	Endemic	FT,ST								✓			
	<i>Lavandula multifida</i> L.	الجزامه	Ch	ME	NE,SE,WB	✓										
Lamiaceae	<i>Marrubium vulgare</i> L.	الروبيا	Ch	ME+ IT	SF,SWLW,FT,ST,SE,NE	✓										
	<i>Micromeria nervosa</i> (Desf.) Benth.	ميكروميريا	Ch	ME	SD,SW,LW,FT,ST											✓
	<i>Phlomis crinita</i> Cav.	فلوميس	Ch	ME + IT	All habitats except SS-SD											✓

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Family name	Scientific name	Vernacular name	LF	CH	Habitats	Site						
						1	2	3	4	5	6	7
	<i>Phlomis floccosa</i> D. Don.	الزهيرة	Ch	ME + IT	All habitats except SS-SD	✓	✓	✓	✓	✓	✓	✓
	<i>Rosmarinus officinalis</i> L.	إكليل الجبل	Ph	ME	LW, FT, ST	✓						✓
	<i>Salvia fruticosa</i> Mill.	تفاح الشامي	Ch	ME	ST, FT, NE, SE, WB	✓					✓	
	<i>Teucrium polium</i> L.	الجمدة	Ch	ME+IT	NE, SE, WB	✓					✓	
	<i>Teucrium zanonii</i> Pamp.	الجمدة	Ch	Endemic	NE, SE, WB	✓						✓
	<i>*Thymus capitatus</i> (L.) Hoffmanns. & Link.	الزعتر	Ch	ME	FT, ST					✓		
Lauraceae	<i>*Laurus nobilis</i> L.	الردن-الغار	Ph	ME	WB					✓		
Malvaceae	<i>Mahua aegyptia</i> L.	الخبيز	Th	ME + SA	NE-SE	✓						
Myrtaceae	<i>Myrtus communis</i> L.	الريحان	Ph	ME+IT+ES	FT, ST, SE, NE, WB						✓	
	<i>*Olea europaea</i> L.	الزيتون	Ph	ME	FT, ST, SE, NE, WB	✓	✓			✓	✓	✓
Oleaceae	<i>Phillyrea angustifolia</i> L.	سخاب	Ph	ME	NE, SE, WB					✓		
Papaveraceae	<i>Papaver rhoeas</i> L.	بقر عيون	Th	ME	LW, FT, ST						✓	
Pinaceae	<i>*Pinus halepensis</i> Miller.	صنوبر	Ph	ME	FT, SE, NE, WB	✓				✓	✓	✓
Plantaginaceae	<i>Plantago ceranaica</i> Durand & Barratte. <i>Avena barbata</i> Pott ex Link.	بلانتاغو خافور	Th	Endemic ME	SD, SW, LW, FT, ST FT, ST					✓		
Poaceae	<i>Cynodon dactylon</i> (L.) Pers. <i>Stipa barbata</i> Desf.	نجيلا بهيما	Ge He	COSM ME + IT+ES	All habitats except SF LW, FT, ST, SE, NE, WE	✓				✓	✓	✓
Portulacaceae	<i>Portulaca oleracea</i> L.	بليشيه	Th	COSM	NE, SE, WB	✓						
Primulaceae	<i>Cyclamen rohlfisianum</i> Aschers. <i>Rhamnus lycioides</i> subsp. <i>oleoides</i> (L.) Jahand. & Maire.	سيكلامن سلوف	Ge Ph	Endemic ME	LW, FT, ST, SE, NE, WB LW, FT, ST, SE, NE					✓	✓	✓
Rhamnaceae	<i>*Ziziphus lotus</i> (L.) Lam.	سدر	Ph	ME	FT, ST					✓		✓

SUPL. TABLE 1. Cont.

Family name	Scientific name	Vernacular name	LF	CH	Habitats	Site							
						1	2	3	4	5	6	7	
Rosaceae	<i>Rubus sanctus</i> Schreb.	توت الشوكي	Ph	ME+IT	NE,SE,WB								✓
Rutaceae	<i>Sarcopoterium spinosum</i> (L.) Spach.	شبرق	Ch	ME	All habitats except SD			✓				✓	✓
	<i>Ruta chalepensis</i> L.	الفجل	Ch	ME	NE,SE,WB	✓							
Scrophulariaceae	<i>Verbascum sinuatum</i> L.	اذان الدب	He	ME+IT	NE,SE,WB			✓					
Solanaceae	<i>Lycium europaeum</i> L.	العوسج	Ph	ME	SF								✓
	<i>Solanum nigrum</i> L.	عنب الدب	Th	SA	FT,ST,SE,NE,WB	✓							
Urticaceae	<i>Urtica ptilifera</i> L.	الحريق	Th	ME+IT+ES	LW-FT-ST-NE-SE-WB							✓	✓
Valerianaceae	<i>Valerianella petrovichii</i> Aschers.	فاليريانيل	Th	Endemic	NE,SE,WB	✓							

**Abbreviation:** (\*) tar-get species; Ph= Phanerophytes, Ch = Chamaephytes, Th = Therophytes, He = Hemicryptophytes and Ge = Genophytes; ME = Mediterranean, COSM = Cosmopolitan, SA = Sahara-Arabian, TR = Tropical, SU = Sudanian, SE = South – Europe, SI = Saharo-Sindian and IT = Irano-Turanian; SS = Saline Sand flats, SD = Coastal Sand Dunes, SF = Sand Flats, SW = Sea Ward slope, LW = Lee Ward slope, FT = First Terrace, ST = Second Terrace, SE = South-East slope, NE = North-East slope and WB = Wadi Bed; 1 = Al-Marj-Al-Baida motorway, 2 = El-Beida (Belghra), 3 = Jardas Jerrar, 4 = Shahat, 5 = Sidi Ahmad Al-Hemery, 6 = Susah and 7 = Wadi El-Kouf.

SUPPL. TABLE 2. Means of Importance value (IV) of indicator and preferential species in the seven vegetation groups derived after the application of TWINSpan at Al-Jabal Al-Akhdar region.

Nu.	Vegetation group	Stands No.	A	B	C	D	E	F	G
			3	4	2	11	9	28	6
Scientific Name									
1-	<i>Ajuga iva</i> (L.) Schreb.		0	0	0	0	0	0.7	0
2-	<i>Allium ampeloprasum</i> L.		0	0	0	0	0	0.9	0
3-	<i>Ammi majus</i> L.		0	0	0	0	0	0	1.3
4-	<i>Anabasis articulata</i> (Forssk.) Moq.		0	0	0	0	0	0.7	0
5-	<i>Anacyclus clavatus</i> (Desf.) Pers.		0	0	0	0	0	1.7	0
6-	<i>Anthemis cyrenaica</i> Coss		0	0	0	0	0	1	0
7-	* <i>Arbutus pavarii</i> Pamp.		0	0	0	3.2	35	13	9.3
8-	<i>Arum cyreanicum</i> Hruby.		0	0	0	1.5	0	0	0
9-	<i>Asparagus aphyllus</i> L.		0	0	0	0	0	0.5	0
10-	<i>Asphodelus microcarpus</i> Salzm. & Viv.		0	0	0	0	1.9	2.7	3.2
11-	<i>Avena barbata</i> Pott & Link.		0	0	0	2.4	0	0	0
12-	<i>Ballota andreuzziana</i> Pamp.	30.7	0	10.5	0	0	0	0.6	0
13-	<i>Bellis sylvestris</i> var. <i>cyrenaica</i> Beg.		0	0	0	0	0	0	3.3
14-	<i>Calicotome villosa</i> (Poir.) Link in Schrad.		0	0	0	0	0	0	2
15-	<i>Capparis spinosa</i> L. var. <i>krugeriana</i> (Pamp.) Jafri.		0	0	0	0	0	0.6	0
16-	* <i>Ceratonia siliqua</i> L.		0	0	0	4	0	4	2.7
17-	<i>Centaurea calcitrapa</i> L.		0	0	0	1.2	0	0.7	0
18-	<i>Centaurea cyrenaica</i> Beg. & Vacc		0	0	0	1	0	0	0
19-	<i>Cistus parviflorus</i> Lam.		0	0	0	0	18	0.61	0
20-	<i>Cistus salvifolius</i> L.		0	0	0	0	7.7	0.61	0
21-	<i>Citrullus colocynthis</i> (L.) Schrad.		0	0	0	0	0	0.5	0
22-	<i>Convolvulus maireanus</i> Pamp.		0	0	0	0	1.3	0.4	2.2
23-	<i>Conium maculatum</i> L.		0	0	0	0	0	0.7	0
24-	<i>Conyza bonariensis</i> (L.) Cronquist		0	0	0	0	0	0.7	0
25-	<i>Crocus boulosii</i> Greuter.		0	0	0	0	0	0.7	0
26-	* <i>Cupressus sempervirens</i> L. var. <i>horizontalis</i> (Mill.) Gord.		0	0	0	19.4	21.3	0.8	18.4
27-	<i>Cyclamen rohlfsianum</i> Aschers.		0	0	0	0	0	0.7	0
28-	<i>Cynara cyrenaica</i> Maire & Weiller.		0	0	0	0	0	1.2	0
29-	<i>Cynodon dactylon</i> (L.) Pers.		0	0	0	0	0	0.5	0
30-	<i>Deverra tortuosa</i> (Desf.) DC.		0	0	0	0	0	0.4	0
31-	<i>Drimia maritima</i> L.		0	0	0	0	1.9	6	0
32-	<i>Echinops spinosissimus</i> Turra.		0	0	0	0	0	1.3	0
33-	<i>Ephedra altissima</i> Desf. var. <i>altissima</i> Pamp.		0	0	0	0	0	0	0.83
34-	<i>Erica multiflora</i> L.		0	0	0	0	0	0	2
35-	<i>Erodium keithii</i> Guitt. & Le.		0	0	0	0	0	1	0
36-	<i>Euphorbia dendroides</i> L.		0	0	0	0	0	1.3	9.3
37-	<i>Euphorbia pseudo-apis</i> Maire & Weiller.		0	0	0	1.5	0	0	0
38-	<i>Globularia alypum</i> L.		0	0	0	0	0	0	2.8
39-	<i>Helichrysum stoechas</i> (L.) Moench. Meth.		0	0	0	0	9	0	4.3
40-	* <i>Juniperus phoenicea</i> L.		0	31	22.5	45	31	61	35
41-	<i>Juncus acutus</i> L.		0	0	0	5	0	0	0

SUPPL. TABLE 2. Cont.

Nu.	Vegetation group	Stands No.	A	B	C	D	E	F	G
			3	4	2	11	9	28	6
42-	<i>*Laurus nobilis</i> L.		0	0	0	0	0	0	14.5
43-	<i>Launaea mucronata</i> (Forssk.) Muschl.		0	0	0	0	0	1.5	0
44-	<i>Launaea nudicaulis</i> (L.) Hooker.f.		0	0	0	0	0	3	0
45-	<i>Lavandula multifida</i> L.		0	0	0	0	0	0.6	0
46-	<i>Lonicera etrusa</i> Santi.		0	0	0	0	0	1.5	0
47-	<i>Lotus tetragonolobus</i> L.		0	0	0	1.1	0	0	0
48-	<i>Lycium europaeum</i> L.		0	0	0	0	0	0	2.3
49-	<i>Malva aegyptia</i> L.		0	0	0	0	0	0.4	0
50-	<i>Marrubium vulgare</i> L.		0	0	0	0	0	0.5	0
51-	<i>Matricaria aurea</i> (Loeffl.) Sch. Bip.		0	0	0	0	1.73	0.5	5.5
52-	<i>Micromeria nervosa</i> (Desf.) Benth.		0	0	0	0	0	0.8	0
53-	<i>Myrtus communis</i> L.		0	0	0	1.7	0	0	0
54-	<i>Nerium oleander</i> L.		0	0	0	5.7	0	0	0
55-	<i>*Olea europaea</i> L.		0	0	0	4	3.1	19	15.5
56-	<i>Onopordum cyrenaicum</i> Maire & Weill.		0	0	0	0	1.3	1.4	0
57-	<i>Opuntia Vulgari</i> var. balearica.		0	0	0	3.64	0	0	0
58-	<i>Pallenis spinosa</i> (L.) Cass.		0	0	0	0	0	1	0
59-	<i>Papaver rhoeas</i> L.		0	0	0	1.5	0	0	0
60-	<i>Periploca angustifolia</i> L.		0	0	0	0	0	0	2
61-	<i>Phillyrea angustifolia</i> L.		0	0	0	0	0	0.4	0
62-	<i>Phlomis crinita</i> Cav.		0	0	0	0	0	0.7	0
63-	<i>Phlomis floccosa</i> D.Don.		0	0	27.5	0	1.6	6.4	10
64-	<i>*Pinus halepensis</i> Miller.		0	0	0	25.4	28.3	0.3	12.7
65-	<i>*Pistacia lentiscus</i> L.		0	0	0	24.64	11	30.2	21.6
66-	<i>Plantago ceranaica</i> Durand & Barratte.		0	0	0	0	0	0.8	0
67-	<i>Portulaca oleracea</i> L.		0	0	0	0	0	0	2
68-	<i>*Quercus coccifera</i> L.		0	0	0	12	0	5	2.2
69-	<i>Retama raetam</i> (Forssk.) Webb & Berthel.		0	0	0	0	0	0.6	0
70-	<i>Rhamnus lycioides</i> subsp. <i>oleoides</i> (L.) Jahand. & Maire		0	0	0	10.3	4	4	0
71-	<i>Rhus tripartita</i> (Bernard. da Ucria) Grande.		0	0	0	0	1.8	0.6	0
72-	<i>Romulea cyrenaica</i> Beguinot.		0	0	0	0	0	0.7	0
73-	<i>Rosmarinus officinalis</i> L.		0	0	0	1.64	0.8	0.3	0
74-	<i>Rubus sanctus</i> Schreb.		0	0	0	0	0	1.2	0
75-	<i>Ruta chalepensis</i> L.		0	0	0	0	0	0.6	0
76-	<i>Sarcopoterium spinosum</i> (L.) Spach		0	0	0	0	0	3.7	0
77-	<i>Salvia fruticosa</i> Mill.		0	0	0	0	0	0.3	4
78-	<i>*Seriphidium herba-alba</i> (Asso) Soják		69.3	72.83	48	0	0	0	0
79-	<i>Sinapis pubescens</i> L.		0	0	0	0	0	0	8
80-	<i>Solanum nigrum</i> L.		0	0	0	0	0	0.8	0
81-	<i>Sonchus asper</i> (L.) Hill.		0	0	0	0	0	0.5	0
82-	<i>Spartium junceum</i> L.		0	0	0	0	0	0.7	0
83-	<i>Stipa barbata</i> Desf.		0	0	0	0	0	6	2.2
84-	<i>Teucrium polium</i> L.		0	0	0	0.64	3.4	0.3	0
85-	<i>Teucrium zanonii</i> Pamp.		0	0	0	0	0	1	0
86-	<i>Thapsia garganica</i> L.		0	0	0	15.7	14.13	2	0
87-	<i>*Thymus capitatus</i> (L.) Hoffmanns. & Link		66.8	60.5	48	0	0	0	0
88-	<i>Urtica pilulifera</i> L.		0	0	0	1.1	1.1	0	0
89-	<i>Valerianella petrovichii</i> Aschers.		0	0	0	0	0	0.6	0
90-	<i>Verbascum sinuatum</i> L.		0	0	0	0	0	0.2	0
91-	<i>*Ziziphus lotus</i> (L.) Lam.		33.83	36.3	44.5	10	0	0	0

(\*) = Target species.

**SUPPL. TABLE 3. Means, standard deviation ( $\pm$ ) and significance of variation between thirteen environmental variables and the studied seven groups (analysis of variance between sample-groups A–G) distinguished by TWINSpan program in Al-Jabal Al-Akhdar region.**

Group number	A	B	C	D	E	F	G	f (ratio)
Number of stands	3	4	2	11	9	28	6	
pH	7.9 $\pm$ 0.32	7.8 $\pm$ 0.36	7.7 $\pm$ 0.56	7.6 $\pm$ 0.21	7.4 $\pm$ 0.37	7.8 $\pm$ 0.36	7.9 $\pm$ 0.20	2.73
EC. ds/m	0.38 $\pm$ 0.17	0.23 $\pm$ 0.12	0.26 $\pm$ 0.72	0.25 $\pm$ 0.17	0.31 $\pm$ 0.12	0.25 $\pm$ 0.12	0.22 $\pm$ 0.07	0.72
Sand (%)	28.8 $\pm$ 1.67	27.7 $\pm$ 5.51	22 $\pm$ 5.55	16.6 $\pm$ 4.13	24 $\pm$ 6.5	23 $\pm$ 7.1	26 $\pm$ 6.4	3
Silt (%)	41.4 $\pm$ 10.9	44.1 $\pm$ 10.1	40.6 $\pm$ 7.2	35.6 $\pm$ 7.6	34 $\pm$ 4.9	35 $\pm$ 11.5	38 $\pm$ 5.8	0.81
Clay (%)	29.9 $\pm$ 10.6	28.2 $\pm$ 12.8	37.3 $\pm$ 1.6	47.8 $\pm$ 10.9	42.23 $\pm$ 7.3	41.2 $\pm$ 15.6	35.3 $\pm$ 8.8	1.76
CO <sub>3</sub> <sup>-</sup>	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	0.0
HCO <sub>3</sub> <sup>-</sup>	0.48 $\pm$ 0.14	0.48 $\pm$ 0.11	0.68 $\pm$ 0.71	0.65 $\pm$ 0.59	0.56 $\pm$ 0.22	0.52 $\pm$ 0.79	0.76 $\pm$ 0.51	0.149
SO <sub>4</sub> <sup>-</sup>	4.7 $\pm$ 3.51	12.3 $\pm$ 12.9	1.03 $\pm$ 0.02	1.3 $\pm$ 0.78	3.3 $\pm$ 2.94	0.86 $\pm$ 0.89	1.5 $\pm$ 1.7	7.23**
Cl <sup>-</sup>	8.6 $\pm$ 9.1	9.1 $\pm$ 7.4	0.37 $\pm$ 0.09	1.6 $\pm$ 2.8	0.43 $\pm$ 0.25	0.31 $\pm$ 0.31	0.49 $\pm$ 0.39	9.78**
Ca <sup>+2</sup>	1.5 $\pm$ 2.4	1.5 $\pm$ 2.2	0.17 $\pm$ 0.02	0.12 $\pm$ 0.07	0.19 $\pm$ 0.06	11.7 $\pm$ 17.4	0.14 $\pm$ 0.04	2.26
Mg <sup>+2</sup>	0.31 $\pm$ 0.48	0.38 $\pm$ 0.66	0.12 $\pm$ 0.35	0.08 $\pm$ 0.07	0.11 $\pm$ 0.09	1.5 $\pm$ 2.6	0.05 $\pm$ 0.01	1.39
Na <sup>+</sup>	9.12 $\pm$ 11.3	16.3 $\pm$ 17.3	1.5 $\pm$ 0.28	2.4 $\pm$ 2.3	3.6 $\pm$ 2.9	1.2 $\pm$ 0.68	1.9 $\pm$ 2.1	6.97**
K <sup>+</sup>	1.6 $\pm$ 1.18	2.1 $\pm$ 2.4	0.5 $\pm$ 0.06	0.98 $\pm$ 0.94	0.38 $\pm$ 0.41	0.4 $\pm$ 0.52	0.23 $\pm$ 0.12	3.77*

Abbreviation: EC.= Electrical Conductivity, ds/m= DeciSiemens/meter and m.eq./L = Milli equivalents per liter.

\*= Significant at P= 0.05, \*\*= Significant at P= 0.01.